A799 Two-Color Thermal Receipt Printer

User Guide

Contains TPG LogoEZ® colorization utility information.

Made under one or more of the following U.S. patents:
4886381, 5579043, 5613787, 5651624, 5713678, 5752779, 5789916, 5800080, 5879090, 5887999, 5975776, 6027266, 6085973, 6089450, 6129465, 6155483, 6404452, 6486902, 6504331, 5749277, 6722754, 6739773, 6784909.

Cognitive TPG Transaction Printer Group

Federal Communications Commission (FCC) Radio Frequency Interference Warning Statement

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Information to the User

This equipment must be installed and used in strict accordance with the manufacturer's instructions. However, there is no guarantee that interference to radio communications will not occur in a particular commercial installation. If this equipment does cause interference, which can be determined by turning the equipment off and on, the user is encouraged to contact TPG immediately.

TPG is not responsible for any radio or television interference caused by unauthorized modification of this equipment or the substitution or attachment of connecting cables and equipment other than those specified by TPG. The correction of interferences caused by such unauthorized modification, substitution or attachment will be the responsibility of the user.

In order to ensure compliance with the Product Safety, FCC and CE marking requirements, you must use the power supply, power cord, and interface cable which are sold for use with this product or which meet the following parameters:

Power Supply

UL Listed (QQGQ), Class 2 power supply with SELV (Secondary Extra Low Voltage), non-energy hazard output, limited power source, input rated 100-240 Vac, 1.5/0.8 A, 50/60 Hz, output rated 24 Vdc, 2.3 A for 55 watt unit.

Use of this product with a power supply other than the TPG power supply will require you to test the power supply and TPG printer for FCC and CE mark compliance.

Communication Interface Cable

A shielded (360 degree) interface cable must be used with this product. The shield must be connected to the frame or earth ground connection or earth ground reference at EACH end of the cable.

Use of a cable other than described here will require that you test the cable with the TPG printer and your system for FCC and CE mark compliance.

Power Cord

A UL listed, detachable power cord must be used. For applications where the power supply module may be mounted on the floor, a power cord with Type SJT marking must be used. For applications outside the US, power cords which meet the particular country's certification and application requirements should be used.

Use of a power cord other than described here may result in a violation of safety certifications which are in force in the country of use.

Industry Canada (IC) Radio Frequency Interference Statement

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

Disclaimer

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Patents

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Web Site

http://www.CognitiveTPG.com

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Chapter 1: About this Guide

How to use this guide

The guide is designed to help you find the information you need quickly and easily, whether you are installing, servicing, or making adjustments to a TPG printer. The chapter headings are self-explanatory, and the index at the back can also point you in the right direction.

For basic printer setup, refer to *Chapter 3: Setting up the Printer*. This section has been written under the assumption that the printer will arrive pre-configured. For instructions on checking the configuration or reconfiguring the printer, look in *Chapter 4: Using the Printer*.

Having problems? Check the troubleshooting section in the back of Chapter 4.

Need paper specs? Look in Chapter 5: *Paper and Supplies*.

Where to find advanced technical information

Since TPG printers are shipped pre-configured and have been designed to operate with no maintenance, this guide provides only essential technical and configuration information. TPG also has a Programming Guide for this printer with more detailed discussion of programming capabilities. The **A799 Programming Guide** has been developed as a companion to the **User Guide** and includes additional programming information. The **A799 Service Guide** is available to qualified service technicians who have been certified by TPG to perform advanced procedures.

Because of the printer's wide array of printing capabilities, you may prefer to contact TPG support for more assistance.

Download manuals and drivers

The **A799 Setup Guide, A799 User Guide, A799 Programming Guide,** and various printer drivers can be downloaded from the TPG website in .pdf format: http://www.CognitiveTPG.com, under "Downloads."

Support

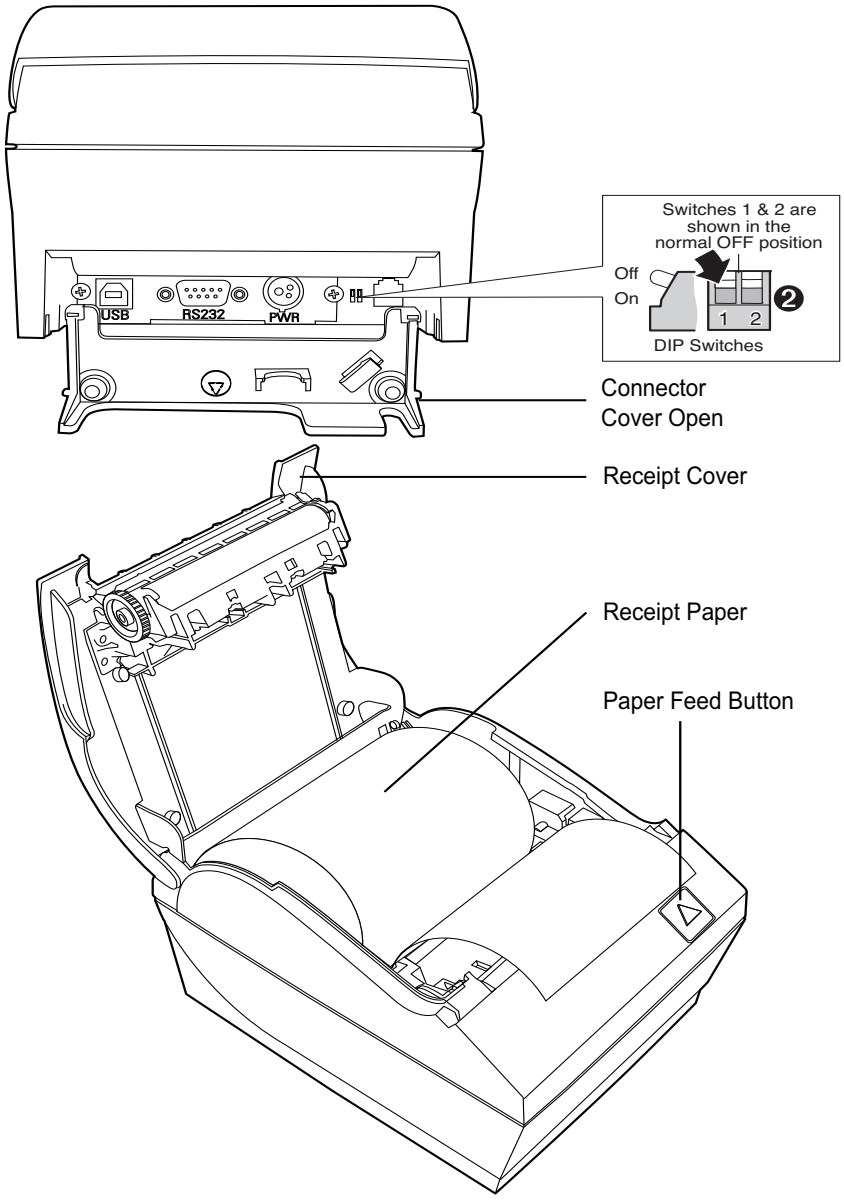
For more advanced procedures and troubleshooting, you may need to refer to the printer's programming or service guides or speak to TPG technical support. Your TPG representative is also able to provide you with necessary information.

Additional information about TPG's products and services is posted on the TPG website, at http://www.CognitiveTPG.com. The website can also direct you to service and support within your area, or e-mail: tsupport@cognitivetpg.com.

Chapter 2: About the Printer

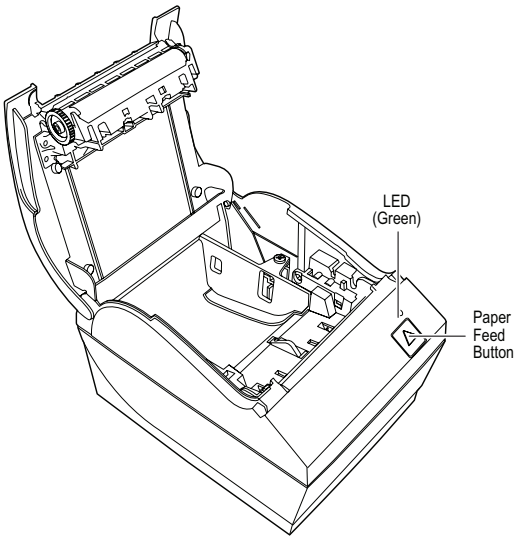
Description of printer

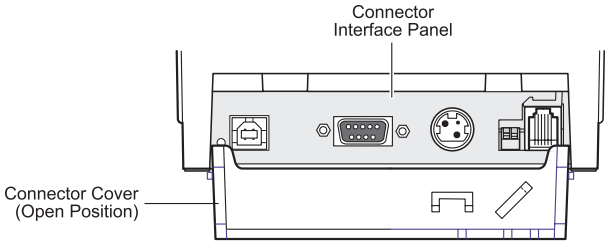
The A799 ColorPOS® two-color thermal receipt printer is easy to install, use, and maintain. Utilizing TPG's Clam shell design, simply snap open the receipt cover and drop the paper roll in place. You never need to change a printer ribbon or cartridge because it uses thermal print technology.



This printer is compatible with TPG's LogoEZ® logo and colorization utility. See *Programming Guide* for more information on obtaining this utility and using the LogoEZ® commands.

Printer controls





Configuration switch (DIP switch 1)

The configuration switch allows you to change the configuration settings of the printer.

Paper feed button

During normal use, the paper feed button advances the paper. It is also used to access the configuration menu.

LED

The green LED indicates basic information about the printer status. A steady green light means the printer is on and operating normally. A flashing LED means the printer needs operator assistance. Refer to the troubleshooting section on page 26 for more information.

Beep

A single beep means the printer has successfully completed its startup routine. It should beep after being powered up or reset.

If the printer beeps twice, it may be experiencing a problem. Refer to the troubleshooting guide on page 26 for more information.

Connector Cover

The connector cover provides protection and strain relief for the printer connectors and cables. This cover should remain on the printer and utilized as described in Chapter 3, *Cable routing*.

Available printer configurations

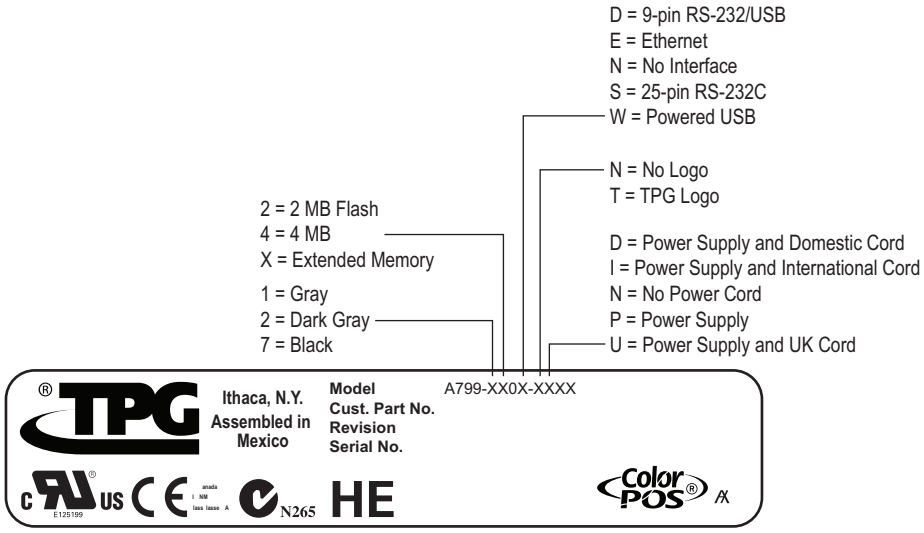
There are several configurations of the printer, depending on the combination of desired options.

Printer configuration identification

See the sample below to determine the printer configuration. The printer configuration identification (Model ID) is located on the model label attached to the back of the printer. This information is also shown on the installation quality report card. The Model ID description is shown below.

Communication interfaces

- RS-232C serial interface (25-pin)
- Universal Serial Bus (USB)/RS232 serial (9-pin)
- Ethernet
- Powered USB
- Parallel



Standard Features

Interfaces	Interfaces vary according to specific configuration: USB/RS232 , 25-pin serial, Ethernet, PUSB Parallel
Memory/Firmware	4 MB flash memory, History EEROM, 4K buffer (see factory-installed options below for additional memory)
Resident character sets	PC code pages 437 (US), 850 (Multilingual), 737 (Greek), 852 (Slavic), 857 (Turkish), 858 (with Eurosymbol), 860 (Portuguese), 862 (Hebrew), 863 (French Canadian), 865 (Nordic), 866 (Cyrillic), 1252 (Windows Latin 1), and 857 (Turkish)
Downloadable Fonts	TBA
Integrated bar codes	Code 39, Code 93, Code 128, UPC-A, UPC-E, JAN8 (EAN), JAN13 (EAN), Interleaved 2 of 5, Codabar, Code 128, PDF-417 (two-dimensional), ITF, Code 128 extended, RSS
Print	Monochrome or two-color print in either 44 (standard) or 56 (compressed) columns on 80 mm wide thermal paper Monochrome or two-color print in either 49 (standard) or 62 (compressed) columns on 82.5 mm wide thermal paper Options for 58 mm and 60 mm wide paper are also available
Paper path	58 mm, 60 mm, 80.0 mm, 82.5 mm paper path width models
Print resolution	8-dots/mm
Speed	Up to 250 mm/second throughput (monochrome); up to 130 mm/second throughput (two-color).
Paper Sensing	Paper low and paper out
Human interface	Audible tone from speaker (software-driven). Simple commands in configuration menu issued through paper feed button. Green LED status light, located next to the paper feed button.
Cash drawer driver	Connector for one or two cash drawers (obtain a "Y" cord for two drawers)
Knife	Paper cutter standard on all units.
Linerless label	TBA

Factory-installed options

- 8 MB memory
- Cabinet color with or without TPG logos

Add-on options

For part numbers and additional ordering information, refer to *Chapter 5: Paper and Supplies*.

- Wall mount kit for printer
- Enhanced spill resistant attachments: spill shield
- Power supply: 55-watt
- Power cords: US, SEV, UK AC, and Australia AC cords
- LogoEZ®, downloadable colorization utility

Printing features

The A799 printer is versatile, with diverse printing options available. Text, graphics, and bar codes can be presented in many different forms and sizes. For more information on available options, LogoEZ® colorization utility and programming the printer to change text, graphics, or other characteristics, refer to the **A799 Programming Guide.**

LogoEZ® colorization utility

Logo and colorization utility is available from your TPG customer service representative or downloadable from www.CognitiveTPG.com

The utility provides a simple setup of basic two-color and logo features to get you started.

Chapter 3: Setting up the Printer

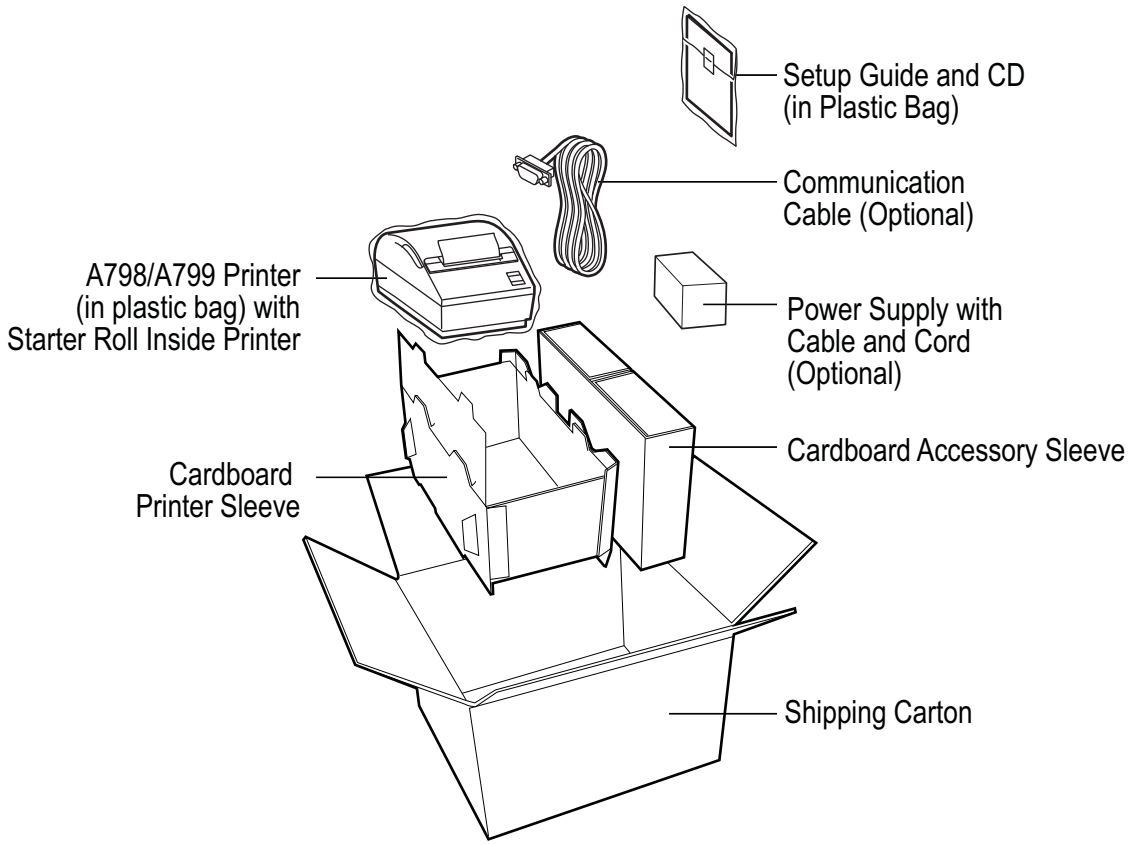
Unpack the printer

Check the packing list

Save the packing materials in case you need to repack the printer for shipping or storage. Before installation, check that all the items on this list have been shipped (printers shipped in bulk may not include all these items):

- Printer (enclosed in a plastic bag with foam pack)
- Starter roll of receipt paper (in paper compartment), with paper roll supports
- Test printout (in paper compartment).
- Setup Guide and CD
- Power supply with cable and cord (if ordered)
- Printer-host communication cable (if ordered)

To report any missing items or shipping-related problems, contact your representative or call TPG customer service at (877) 209-0156



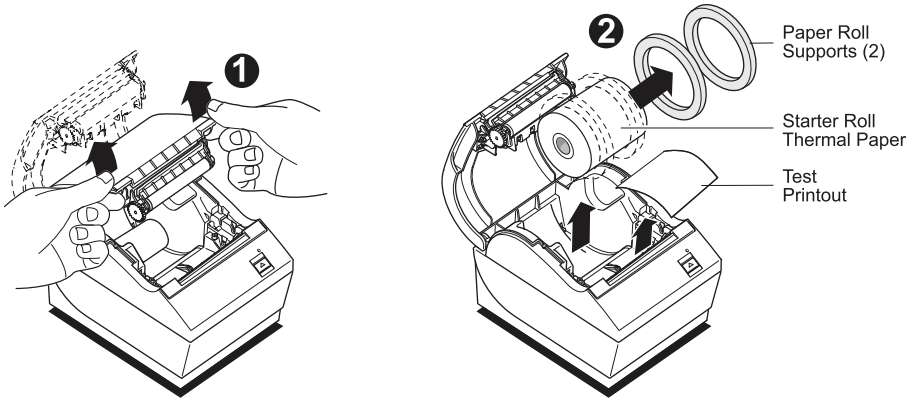
Load or change the receipt paper

Caution: *You must use qualified paper rolls with TPG printers. The list of qualified paper is in Chapter 5. Using unqualified paper may void the warranty.*

You will later use the same procedure to change the receipt paper as you will to load it during installation. The minor difference is noted in the directions below.

If you are installing the printer using the wall mount kit, you may find it easier to load the paper roll after installation.

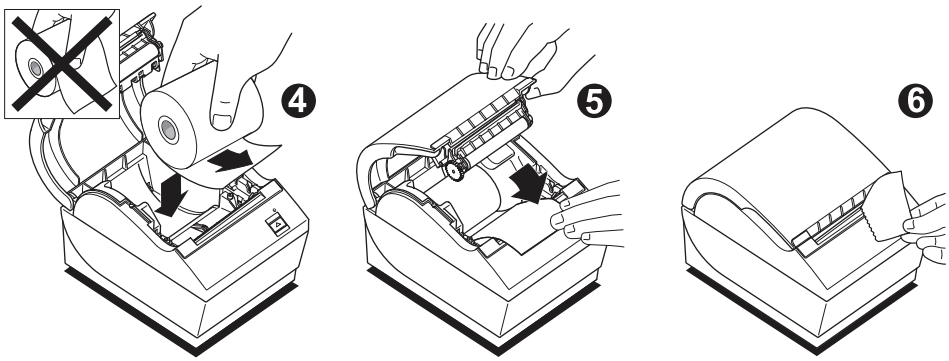
Note: *The printer must be set to the paper type being used for proper operation. This can be done by sending the command 1D 81 m n or by a selection in the configuration menu. To change the paper type in the configuration main menu select "Set Paper Type" and make selections. (See page 21 for how to enter the configuration menu.)*



1. Open the receipt cover by pushing up evenly on each side of the cover until it unsnaps (1).
2. **Loading:** Remove the test printout (2) and starter roll. Slide the supports off the roll (3).

   Changing: Remove the used paper roll.
3. Tear a clean edge on the new receipt paper roll, making sure the tape has been completely removed.
4. Place the receipt paper into the paper compartment so it **unrolls from the bottom** (4). Leave a few inches of paper sticking out of the printer.
5. While holding the paper in place, close the receipt cover (5). To test that the paper is loaded correctly, advance the paper with the paper feed button.

   Note: *If the paper jams, make sure the roll is inserted correctly. Check the illustration above for proper orientation.*
6. Tear the excess paper off against the blade in the cover (6).



Adjusting Paper Low Setting

The amount of paper left on the roll when the “paper low” indication is given by the printer should be approximately 5-20 feet. If too much paper is left, there is an adjustable setting in the configuration menu that can be modified. To enter the configuration menu, see “Configuring the printer” in Chapter 4. Enter the “Hardware Options” section and vary the “paper low extension” setting. The setting chosen will decrease the amount of footage at paper low.

Changing the paper path width

The A799 can be adjusted to print on paper rolls with widths of 58 or 60 mm. To perform this adjustment, please refer to the A799 Service Guide. A trained service technician must perform this adjustment.

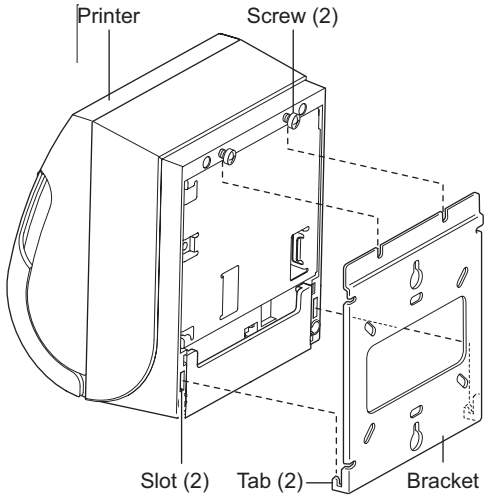
Note: The A799 printer can also print on paper rolls 82.5 mm wide. This option for the printer is factory installed. Please contact TPG for details.

Mounting the printer on a vertical surface (using optional kit TPG-K260)

1 Select a location that allows adequate support for the printer and is within easy cable length of the host.

2 Follow the instructions provided with wall-mount kit (K260) to attach the bracket to the vertical surface and the printer to the bracket.

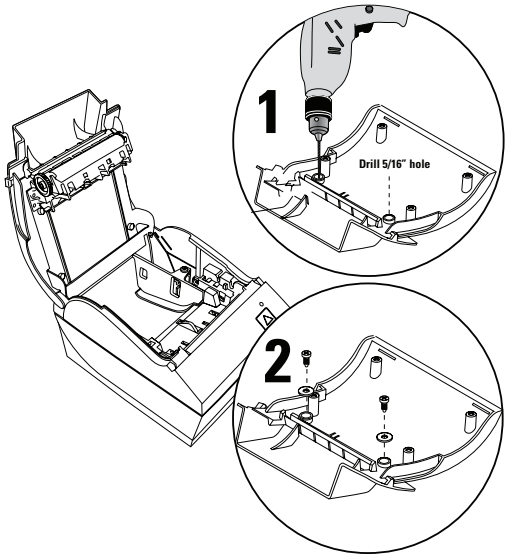
Caution: *Attach the power and communication cables to the printer prior to attaching the printer to the bracket.*

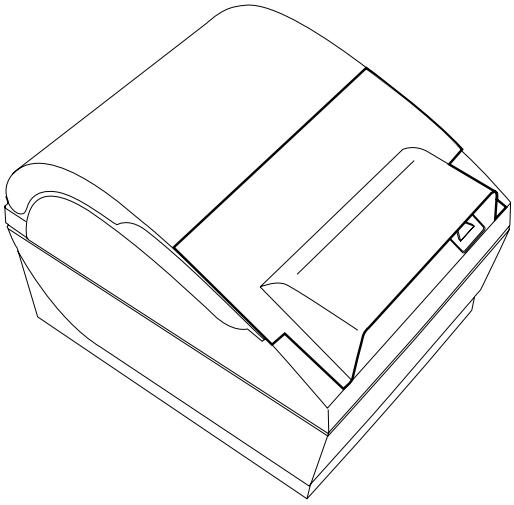


Spill shield option installation

Top and bottom spill shields provide added protection for your printer from moisture or spills. The following instructions describe how to install both of these shields. Shields may be installed individually or as a set.

Tools: Phillips head screwdriver





To install the top spill shield:

1 Clean the printer receipt cover in the area where the top spill cover is to be installed.

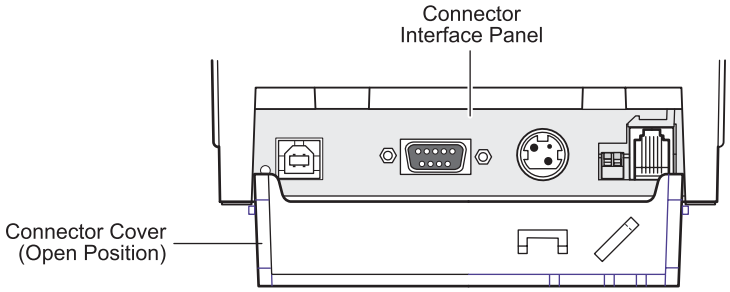
2 Remove receipt cover and drill holes using a #5/32 or 4 mm drill bit (as shown). Open holes further by drilling with a 5/16 or 8 mm drill bit.

3 Position the spill shield to the printer.

4 Fasten spill shield to receipt cover with screws and washers provided.

Connect the cables

Cable connections are made at the back of the printer.



Caution: *Connect the cables to the printer before applying power. The host computer should always be turned off before connecting communication cables.*

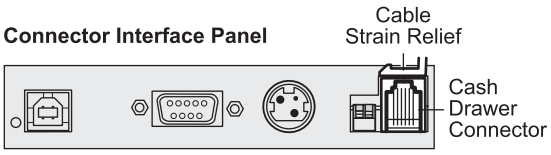
Cash drawer cables

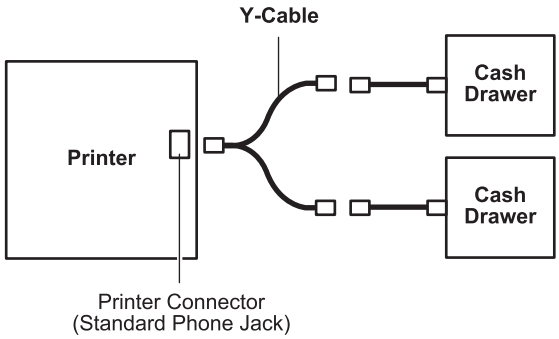
The cash drawer cable connects the printer to one or two cash drawers.
(For pin-out, see *Service Guide*.)

To install the cash drawer cable:

1. Open the connector cover.
2. Plug the cable into the cash drawer connector located at the right side of the illustration.
3. Route the cable up and through the strain relief clip above the connector and through the opening in the connector cover when shut.

Note: *If installing two cash drawers, you will need to obtain a Y-cable as shown in the illustration below.*





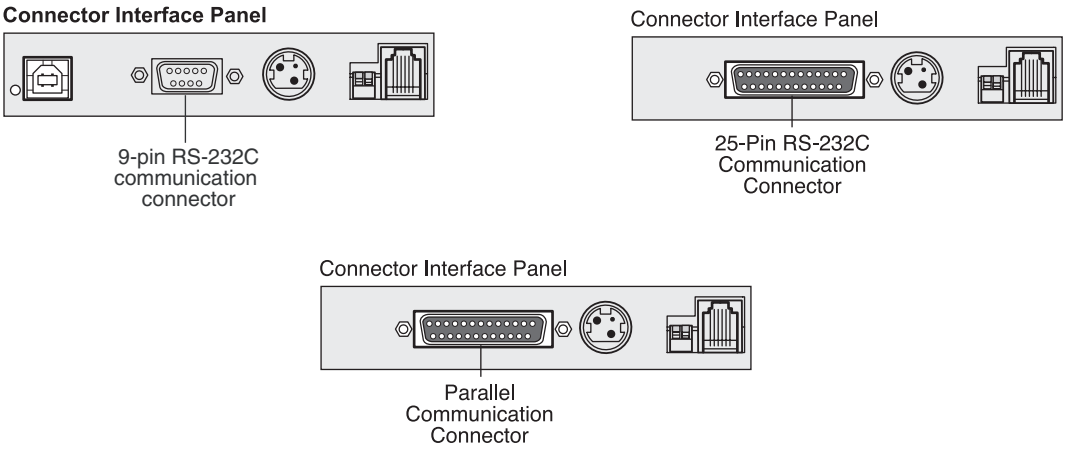
Communication cables

According to your printer configuration, the printer has different communication connection options. Select and attach either 9-pin RS-232C, 25-pin RS-232C, standard USB, powered USB, or Ethernet communication cable to the printer and host computer.

For printers with both 9-pin RS-232C and USB connectors, only a single communication connection is to be used during operations.

RS-232C cable (9-pin and 25-pin) and parallel

The communication cable connects the printer to the host computer using either the 9-pin or 25-pin RS-232C, or 25-pin parallel interface. Installation is identical for all connectors.



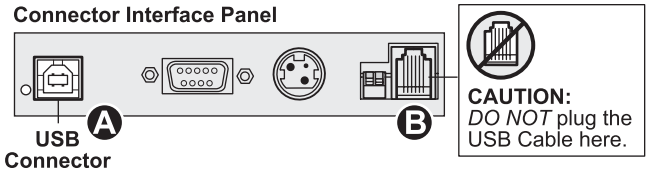
To install the communication cable:

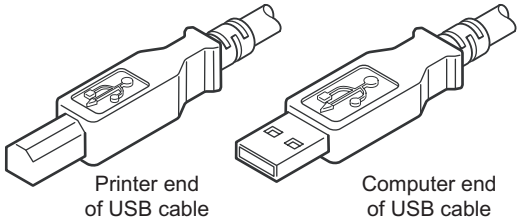
1. Make sure the host computer is off.
2. Open the connector cover at the rear of the printer.
3. Attach the communication cable to the communication connector, shown in the center in the illustration. Tighten the screws to secure the cable and ensure a stable connection.
4. Connect the cable to the host computer.

USB cable

Unlike the other connections, the USB cable may be attached and detached while the system is operating.

Using the USB connector with the printer requires that you install the TPG USB driver appropriate for your system. If you are replacing a USB-equipped TPG printer, you may not need to reinstall the driver.





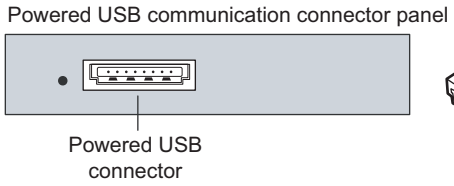
To install the USB cable:

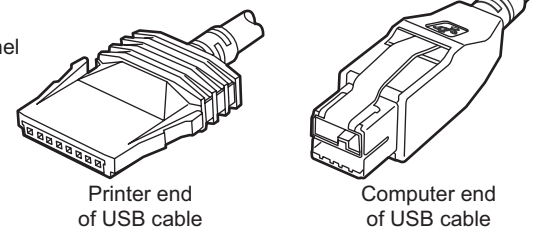
1. Open the connector cover at the rear of the printer.
2. Attach the USB cable to the USB connector, shown at the left above (A). **Don't plug the USB cable into the cash drawer connector (B) by mistake!** Doing so may damage the printer. The USB symbol should face up when inserted into the port. Make sure the connection is snug.
3. Route the cable through the strain relief on the connector cover (see the "Cable routing" section which follows on page 19).
4. Connect the cable to the USB port in the host computer. Again, make sure the USB symbol on the connector is face up when you plug it into the port.

After you have completed setting up the printer, you can install the USB driver on the host computer.

Download the USB driver to the host computer from the TPG corporate website at http://www.CognitiveTPG.com. Downloads can be found in the *Service & Support* section of the site.

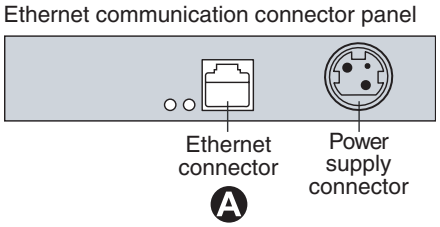
Powered USB cable





1. Be sure the host computer is turned off.
2. Plug the printer end of the USB cable into the USB connector port on the printer.
3. Route the cable from the printer through the strain relief tab as shown under Cable Routing on page 19.
4. Plug the computer end of the USB cable into the computer.

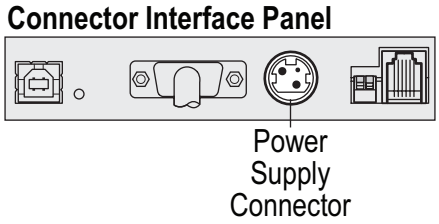
Ethernet communication cable



1. You don't need to turn off the computer. Plug the printer end of the Ethernet cable into the Ethernet connector port on the printer (A). Make sure the connector snaps firmly in place.
2. Plug the computer end of the Ethernet cable into the Ethernet port of the computer. Make sure the connector snaps firmly in place.
3. After you have connected the printer, you may need to set the printer internal parameters for Ethernet operation. See Ethernet Setup Guide.

Power supply cable

To avoid damaging the printer, connect the power supply last.

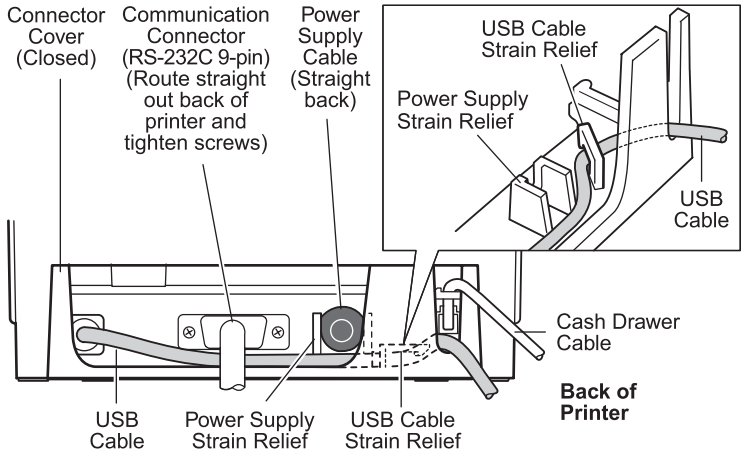


1. Plug the power cable into the power connector located in the center of the illustration.
2. Close the connector cover until it snaps, making sure that all the cables are aligned with the slots in the connector cover. Double-check that the strain relief on the connector cover is aligned with the power supply cable (see "Cable routing" section which follows).
3. Plug the power cord into the power supply.
4. Plug the power supply into a grounded outlet. When it is properly powered, the green LED on the top of the printer will light up.

WARNING! *Using this device without a grounded outlet is a safety hazard and voids the printer Warranty, Safety, FCC and CE Mark designation.*

Cable routing

To prevent the printer from becoming unplugged accidentally, make sure the cables are routed as shown in the illustration below.


Connector Cover (Closed)
Communication Connector (RS-232C 9-pin) (Route straight out back of printer and tighten screws)
Power Supply Cable (Straight back)
USB Cable Strain Relief
Power Supply Strain Relief
USB Cable
Cash Drawer Cable
Back of Printer
USB Cable
Power Supply Strain Relief
USB Cable Strain Relief

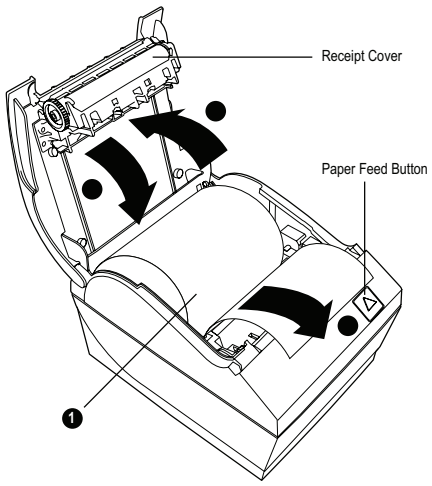
For USB printers only:

Guide the USB cable through the strain relief and out the slot in the connector cover, as shown in the illustration. The USB cable fits underneath the power supply and cash drawer cables. The RS-232C cable routes straight out the back when attached.

Test the printer

If the printer is functioning normally, it will beep once. If it responds differently, look in *Chapter 4: Using the Printer*, "Troubleshooting the printer" (page 26) or contact TPG for technical support.

The printer will arrive for installation pre-configured. The printer's current configuration appears on the test (diagnostics) printout. However, if you would like to run a new print test or check the configurations, you can run a diagnostics printout detailing the current configuration.



To run a diagnostic test:

1. Make sure paper is in the printer (1).
2. Open the receipt cover (2).
3. Press and hold the paper feed button (3).
4. Close the receipt cover, continually holding the paper feed button until the configuration printout begins (4).

For further instructions, see *Chapter 4: Using the printer,* "Configuring the printer" (page 20).

Chapter 4: Using the Printer

Configuring the printer

The configuration menu allows the user to set general printer parameters. The test prints the diagnostics form, which details settings for all functions. The printer will partially cut the paper between each variation.

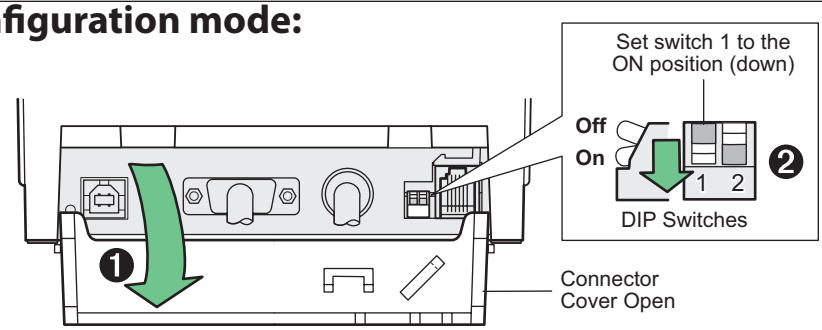
The printouts may vary for each model. The test ends with a partial cut of the paper. A complete test printout may require the use of several feet of paper.

Since the printer is usually shipped pre-configured, most users do not need to change the configuration of the printer. If you make adjustments to the configuration, be careful not to inadvertently change settings that may affect the printer's performance. TPG does not recommend that users change the printer configuration.

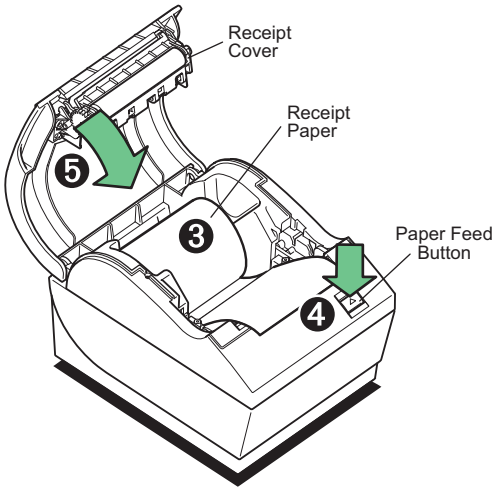
Additional information on configuring the printer is found in the **A799 Programming Guide.**

Hint: *The printer is shipped with a test printout that includes the preset configuration. If you run into problems after changing the printer configuration, use these settings as a default. For guidance or assistance, you may contact an TPG representative.*

To enter the configuration mode:



1. Turn power off to printer.
2. Open connector cover (1).
3. Set DIP switch 1 to the ON position (down) (2).

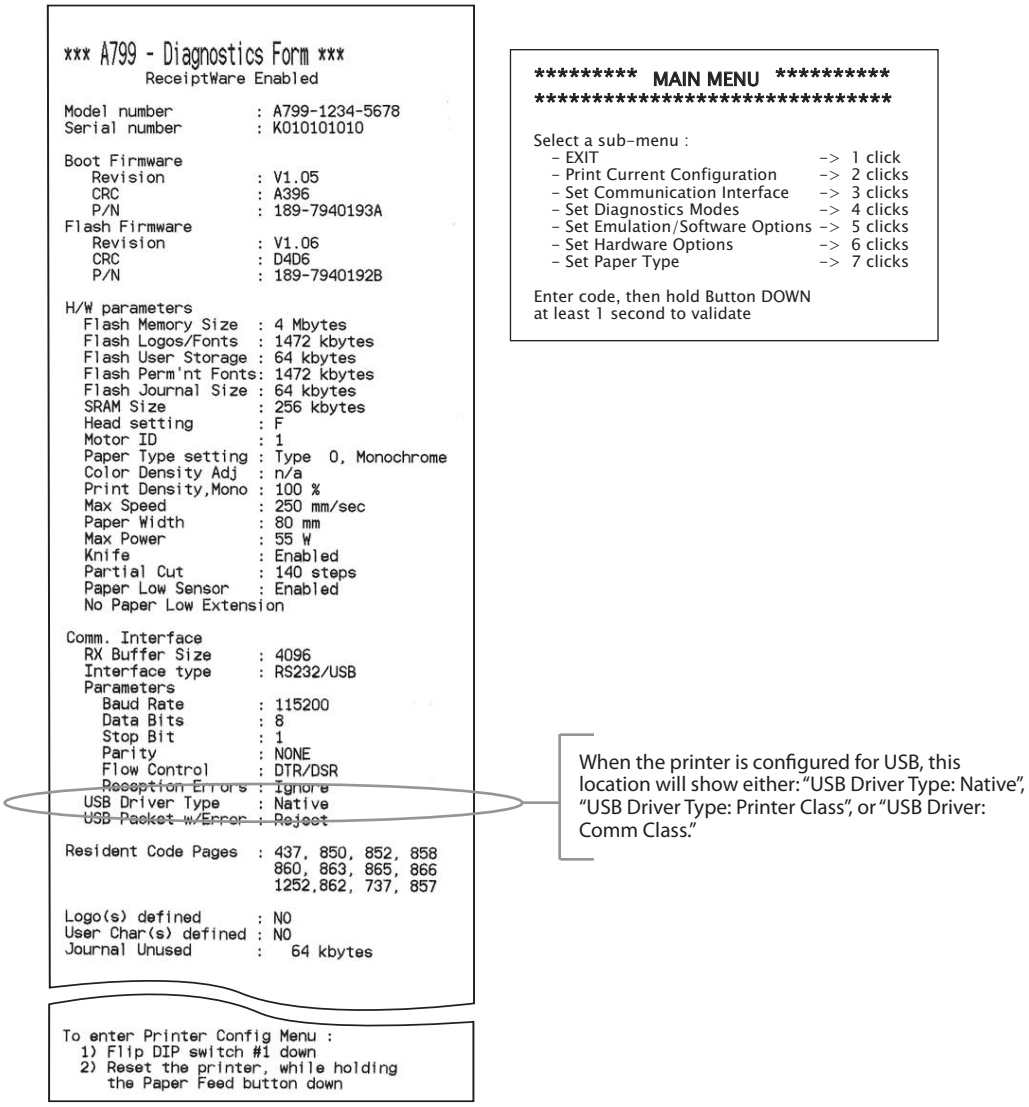


DIP switch 2 should be in the OFF position (up).

4. Make sure receipt paper (3) is loaded in the printer before proceeding. Make sure cover is closed.(See page 12.)
5. Apply power to printer and immediately press and hold the paper feed button (4) until the configuration printout begins.
   - The printer beeps, then prints the diagnostics form and the configuration main menu.
   - The printer pauses and waits for a main menu selection to be made (see sample printout on the next page; short clicks are used, except when answering “yes” or validating selection).
6. To communicate with the printer, you will press the paper feed button using either short or long clicks. Use a long click for “yes” (more than one second) and a short click for “no.” Follow the printed instructions to make selections.
7. Continue through your menu selections until you are asked, “Save New Parameters?” Select “Yes.”
   - **a** Return DIP Switch 1 to the OFF position (up).
   - **b** Reset the Printer.
   - **c** Open the receipt cover.

     Press and hold the paper feed button while closing the receipt cover.

     - The diagnostic printout verifies your new settings.


*** A799 - Diagnostics Form ***
ReceiptWare Enabled
Model number : A799-1234-5678
Serial number : K010101010
Boot Firmware
Revision : V1.05
CRC : A396
P/N : 189-7940193A
Flash Firmware
Revision : V1.06
CRC : D4D6
P/N : 189-7940192B
H/W parameters
Flash Memory Size : 4 Mbytes
Flash Logos/Fonts : 1472 kbytes
Flash User Storage : 64 kbytes
Flash Perm'nt Fonts: 1472 kbytes
Flash Journal Size : 64 kbytes
SRAM Size : 256 kbytes
Head setting : F
Motor ID : 1
Paper Type setting : Type 0, Monochrome
Color Density Adj : n/a
Print Density,Mono : 100 %
Max Speed : 250 mm/sec
Paper Width : 80 mm
Max Power : 55 W
Knife : Enabled
Partial Cut : 140 steps
Paper Low Sensor : Enabled
No Paper Low Extension
Comm. Interface
RX Buffer Size : 4096
Interface type : RS232/USB
Parameters
Baud Rate : 115200
Data Bits : 8
Stop Bit : 1
Parity : NONE
Flow Control : DTR/DSR
Reception Errors : Ignore
USB Driver Type : Native
USB Packet w/Error : Reject
Resident Code Pages : 437, 850, 852, 858
860, 863, 865, 866
1252,862, 737, 857
Logo(s) defined : NO
User Char(s) defined : NO
Journal Unused : 64 kbytes
To enter Printer Config Menu :
1) Flip DIP switch #1 down
2) Reset the printer, while holding
the Paper Feed button down
********** MAIN MENU **********
Select a sub-menu :
- EXIT -> 1 click
- Print Current Configuration -> 2 clicks
- Set Communication Interface -> 3 clicks
- Set Diagnostics Modes -> 4 clicks
- Set Emulation/Software Options -> 5 clicks
- Set Hardware Options -> 6 clicks
- Set Paper Type -> 7 clicks
Enter code, then hold Button DOWN
at least 1 second to validate
When the printer is configured for USB, this location will show either: "USB Driver Type: Native", "USB Driver Type: Printer Class", or "USB Driver: Comm Class."

Print test and Configuration menu samples. Samples will vary depending on the printer model. (Shown approximately 60% of size)

Short clicks are used in the main menu selections.

Monochrome paper print density

This function makes it possible to adjust the energy level of the printhead to darken the printout or adjust for paper variations. An adjustment should only be made when necessary. The factory setting is 100%.

Warning: *Choose an energy level no higher than necessary to achieve a dark printout.Failure to observe this rule may result in a printer service call or voiding of the printer warranty. Running at a higher energy level will reduce the printhead life. Consult your TPG representative or TPG technical support if you have any questions.*

When the printer prints high-density print lines (text or graphics), it automatically slows down.

To change the print density:

1. Enter the configuration menu (follow directions on page 21).
2. Select "Set Hardware Options" from the main menu.

   Printer responds, "Hardware Options Menu," and when scrolled prompts, "Set Print Density?"
3. Select "Yes".

   A warning is printed, followed by the density adjustment selections.

   Enter clicks for selection, then hold button down at least 1 second to validate.

Color density

This function makes it possible to adjust the energy level of the printhead to darken the color printing or adjust for paper variations. An adjustment should only be made when necessary. The factory setting is 100%.

Warning: *Choose an energy level no higher than necessary to achieve a dark printout. Failure to observe this rule may result in a printer service call or voiding of the printer warranty. Running at a higher energy level will reduce the printhead life. Consult your TPG representative or TPG technical support if you have any questions.*

When the printer prints high-density color print lines (text or graphics), it automatically slows down.

To change the color density:

1. Enter the configuration menu (follow directions on page 21).
2. Select "Set Hardware Options" from the main menu.

   Printer responds, "Hardware Options Menu," and when scrolled prompts, "Set Color Density Adjustment?".
3. Select "Yes".

   A warning is printed, followed by the density adjustment selections.

   Enter clicks for selection, then hold button down at least 1 second to validate.

When to change the receipt paper

Change the paper when it is near the end of the roll or out. When the paper is low, you will want to monitor usage to avoid running out part way through a transaction. When the paper is out, you must load a new roll immediately or data may be lost!

When paper is low:

- Colored stripe appears on the receipt paper, (if paper is purchased with stripe) and indicates enough paper remains for a small transaction.
- If paper low option is installed on the printer, the green LED flashes slowly indicating that approximately 15 feet of paper remains. If too much paper is left on the roll, the "paper low" setting can be adjusted by entering the configuration menu and changing the "paper low" extension setting.

When paper is out:

- Green LED flashes quickly indicating the paper must be installed.

Warning: *Do not try to operate the printer or host computer if the printer runs out of paper. The printer may continue to accept data from the host computer even though it is unable to print. Data may be lost as a result!*

For instructions on how to change the receipt paper, look in *Chapter 3: Setting up the Printer*, "Load or change the receipt paper" (see page 12).

Note: *When changing the type of paper being used, you must set the printer to the new paper type. This is done through the command 1D 81 m n or through the configuration menu. (See A799 Programming Guide for command usage or page 21 to enter configuration menu.)*

Paper type grades

Type 0: Monochrome

Type 4: Two-color

Type 5: Two-color

Printhead Setting

The printhead energy rating and printer setting must match. The setting will be preconfigured from the factory but may require changing should service to the thermal mechanism be required. The "Head Setting" on the diagnostic printout must match the letter marked on the front right of the thermal mechanism. Whenever the thermal mechanism is replaced, if the letter on the the mechanism is different from the head setting, you must enter the configuration menu and set the printhead to match. (See *A799 Service Guide* for replacing the thermal mechanism.)

Preventing overheating of the printhead

There are restrictions on the duty cycle because of the heat generated by the thermal printhead when printing solid blocks (regardless of the length of the block in relation to the print line). The restrictions are ambient temperature, the percentage of time (measured against one minute) of continuous solid printing, and the amount of coverage.

Keep in mind that the ambient temperature may be affected by factors such as direct exposure to sun or close proximity to heating elements.

Caution: *When the duty cycle exceeds the limits shown in the table, the receipt printhead will heat up and shut down. This may damage the printhead.*

To avoid this problem, do one or a combination of the following:

1 Reduce the amount of coverage.

2 Reduce the time of continuous solid printing.

3 Reduce the ambient temperature.

Allowable duty cycle (measured over one minute of continuous printing)

Amount of solid coverage	Ambient temperature		
	25°C	35° C	50° C
20%	100%	50%	20%
40%	50%	25%	10%
100%	20%	10%	4%

Duty cycle

Percentage of time that the specified "Amount of solid coverage" can be printed during a one minute period of time.

Example: at 20% solid coverage, 35° C temperature, a 50% duty cycle is to be used, resulting in 30 seconds of printing and 30 seconds without printing.

For reference:

- A typical receipt with text (contains some blank spaces) is approximately 12% dot coverage.
- A full line of text characters (every cell on the line has a character in it) is approximately 25% dot coverage.
- Graphics are approximately 40% dot coverage.
- Barcodes are approximately 50% dot coverage.
- A solid black line is 100% dot coverage.

Troubleshooting the printer

The printer is simple and generally trouble-free, however unexpected conditions may arise. Use the charts below to diagnose and solve these printer conditions. To resolve complex issues, you may need to contact a service representative.

If unexpected conditions arise while installing the USB driver, take a look in the FAQ section located at www.CognitiveTPG.com.

Printer tone and green LED

Condition	Possible causes	What to do	Where to go for more information
Green LED, quick steady flashing	Paper out	Load a new paper roll	Chapter 3: Setting up the Printer, "Load or change the receipt paper" (See page 12)
	Receipt cover open	Close the cover	
	Knife unable to home	Stop using the printer	Contact your authorized service representative.
Green LED, slow steady flashing	Paper is low (if paper low sensor is installed)	Load a new paper roll	Chapter 3: Setting up the Printer, "Load or change the receipt paper" (See page 12.)
	Other problems may be indicated	Stop using the printer	Contact your authorized service representative
Printer beeps (two-tone—low frequency, high frequency)	Printer has been turned on and is ready to operate	No action is required	
Printer beeps and flashes green LED in various combinations	These all indicate serious conditions	Stop using the printer	Contact your authorized service representative

Printing issues

Condition	Possible Causes	What to Do	Where to Go
Colored stripe on the receipt	Paper is low	Change the paper	Chapter 3: Setting up the printer, "Load or change the receipt paper" (See page 12)
Receipt does not come out all the way	Paper is jammed	Open the receipt cover, inspect the knife, and clear any jammed paper	
Printer starts to print, but stops while the receipt is being printed	Paper is jammed	Open the receipt cover, inspect the knife, and clear any jammed paper	
Receipt is not cut	Paper is jammed	Open the receipt cover, inspect the knife, and clear any jammed paper	
Print is light or spotty	Paper roll loaded incorrectly	Check that the paper is loaded properly	Chapter 3: Setting up the printer, "Load or change the receipt paper" (See page 12)
	Thermal printhead is dirty	Use recommended thermal receipt paper **(See note below.)**	Chapter 5: Paper and Supplies, "Ordering thermal paper" (See page 29)
	Variations in paper	Increase print density in "Set Hardware Options" of printer Configuration Menu to 110% or 120% as needed (monochrome printer only)	Contact your authorized service representative or refer to Chaper 4: Using the Printer, "Configuring the printer" **USE CAUTION when changing settings** (See page 23)
Color print is light	Variations in paper	Increase energy level of printhead in "Color Density Adj" of the printer configuration menu	Chapter 4: Using the Printer, "Configuring the printer" page 20 and the **Programming Guide**
Inconsistent printing, no two-color print	Paper type used and paper type do not match	Print diagnostic form and verify setting paper type setting to type 0, 1, 4, or 5	Chapter 4: Using the Printer, "Configuring the printer" page 20 and the **Programming Guide**
Vertical column of print is missing	This indicates a serious condition with the printer electronics	Stop using the printer	Contact your authorized service representative
One side of receipt is missing	This indicates a serious condition with the printer electronics	Stop using the printer	Contact your authorized service representative

Note: If paper has been used which is not on the TPG recommend paper list, resulting in a dirty printhead, the printhead may require cleaning prior to switching back to TPG recommended paper. See Chapter 5 for a list. If non-recommended paper is used over an extended period, attempting to clean the printhead will have little effect on print quality.

Do not try to clean within the printer except as noted in the **A799 Service Guide**, Chapter 4: Cleaning and Maintenance.

Printer does not function

Condition	Possible Causes	What to Do	Where to Go
Printer does not function when turned on	Printer not plugged in	Check that printer cables are properly connected on both ends	Chapter 3: Setting up the printer, "Connect the cables" (See page 15)
		Check that the host or power supply is getting power	Chapter 3: Setting up the printer, "Connect the cables" (See page 15)
	Receipt cover not fully closed	Close and latch the receipt cover	
Printer stops functioning	Printhead has overheated	Allow the printhead to cool down	Chapter 4: Using the Printer, "Preventing overheating of the printhead" (See page 25.)
	Interrupted data signal over USB connection	Ensure the standard USB cable is no more than 5 meters long, with no extensions; eliminate hubs	
	Faulty USB port	Plug cable into another USB port on host computer	
Interruption of data	RS-232C mode not working	Printer had previously been connected to USB host	Reset printer and check normal RS-232C faults.
Printer goes off-line (red LED on USB connector is on or off)	USB cable is not connected properly	If printer doesn't auto-recover after 5–20 seconds, reconnect the USB cable, reset the printer, and reboot the host computer; check that USB cable are properly connected on both ends	Chapter 3: Setting up the Printer, "Connect the cables" (See page 15)

Chapter 5: Paper and Supplies

Ordering from TPG

Printer parts, accessories, and small quantities of paper can be ordered directly from TPG. While the TPG part numbers are listed here for your convenience, keep in mind that these numbers may change before this guide is outdated. To place an order or get more non-technical information, call your TPG representative or the sales line at (800) 732-8950.

TPG is able to provide paper in small lots to facilitate product evaluation and testing. Contact your TPG representative for more information on ordering.

Ordering thermal paper

Thermal paper specifications

The printer requires qualified thermal paper with the following dimensions:

Width	Diameter	Length
58 ± 0.2 mm (2.28 ± 0.01″)	90 mm max. (3.54″)	322′ nominal
60 ± 0.2 mm (2.36 ± 0.01″)	90 mm max. (3.54″)	322′ nominal
80 ± 0.2 mm (3.15 ± 0.01″)	90 mm max. (3.54″)	322′ nominal
82.5 ± 0.2 mm (3.25 ± 0.01″)	90 mm max. (3.54″)	322′ nominal

The paper must not be attached at the core. Use paper with a colored stripe at the end to indicate that the paper is running low, required when the printer is positioned vertically.

The above figures are based on a core diameter of 22 ± 0.5 mm (0.87”) outside,11.5 ± 0.5 mm (0.45”) inside.

Qualified Paper Grades

Contact the converter of your choice to order paper. TPG recommends the following paper grades produced by their respective manufacturers. There are a number of paper converters qualified to provide this paper, provided the POS rolls are from these recommended grades.

Note: *When changing paper type, you will need to set the printer to that paper type by sending the "Set paper type" command (1D 81 m n) or by changing the paper type setting in the configuration menu. (See Programming Guide for command usage or page 20 to enter the configuration menu.)*

Monochrome (black ink) paper:

Qualified manufacturers	Phone	Paper grade (density)
Appleton Papers, Inc. (USA) **825 E. Wisconsin Ave.** **Appleton, WI 54912**	Voice: (800)922–1729 Fax: (800)922–1712	Optima T1030 (Light) Optima T1012A (Standard) Optima POS-Plus (Light) Optima T2162(Light) Optima Superior (Standard) Optima Hi-Yield
Kanzaki Specialty Papers (USA) **20 Cummings St.** **Ware, MA 01082–2002**	Voice: (888)526–9254 Fax: (413)731–8864	P–300 (Light) P–310 (Standard) P–350 (Standard) P–354 (Standard) P–390 (Standard) TO–260 (Standard) TO–381L (Standard)
Jujo Thermal LTD. **P.O. Box 92 FIN–27501** **Kauttua, Finland**	Voice: (358)2–8393–2900 Fax: (358)2–3893–2419	AF50KS–E3 (Standard) AP62KS–E3 (Standard)
OJI Paper Company Ltd. **5–12–8 Ginza Chuo-ku** **Tokyo 104, Japan**	Voice: (81)3–5550–3076 Fax: (81)3–5550–2950	KF–60 (Standard) PD–170R (Light) PD–160R (Standard)
Koehler UK LTD. (GB)	Voice: (44)1322–661010	KT55–F20 (Standard)

Two-color paper:

Qualified manufacturers	Phone	Paper grade (density)
Kanzaki Specialty Papers (USA) **20 Cummings St.** **Ware, MA 01082–2002**	Voice: (888)526–9254 Voice: (413)736–3216 Fax: (413)731–8864	P–310 RB (Red and Black) P–320 RB (Red and Black) P–320 BB (Blue and Black) P-320 GB (Green/Black)
Mitsubishi Int'l Corp (USA) **520 Madison Ave.** **New York, New York 10022-4223**	Voice: (212)605–2000 Fax: (212)605–2597	P–5035 (Light) T–8051 (Standard) TP–8065 (Standard) PB-770 (Blue/Black)

Ordering miscellaneous supplies

Cash drawers

Order cash drawers from the following suppliers:

Cash Drawers	Number
NCR	7052-K657™
M-S Cash Drawer Corp.	EP-125 K series™, EP-127™, EP-102™
APG Cash Drawer	Model 322™
Indiana Cash Drawer	Model SLD™

Power supply and power cords

Other suppliers may use different part numbers.

Item	Type	Number
55-Watt power supply with attached cable to printer and U.S. power supply cord		TPG-K330
55-Watt power supply, attached cable		TPG-K301
Power supply cord (to outlet)	United States	TPG-K320
	International (no plug)	TPG-K321
	United Kingdom	TPG-K322
	S.E.V.	TPG-K323
	Australia	TPG-K324
	International (with plug)	TPG-K326

Wall-mount kits

Printer wall-mount kit: TPG-K260

Documentation and utilities

Contact a sales representative to order the following:

A799 User Guide*	A799–UG00001
A799 Programming Guide*	A799–PG00001
A799 Service Guide (TPG certified service technicians only)	A79x–SERV001
A799 Setup Guide*	A799–SUG0001

TPG LogoEZ® colorization utility*

*** Downloadable from TPG website http://www.CognitiveTPG.com (documentation provided in .pdf format)**